CalRecycle

Department of Resources Recycling and Recovery
Site Safety and Health Plan

Lodi City Landfill

Lodi, California

SWIS NO. 39-CR-0023

January 2012

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1. Introduction

The Department of Resources Recycling and Recovery (CalRecycle) recognizes that employees performing field duties may be exposed to hazardous environments. The purpose of this document is to provide CalRecycle staff with a Site Safety and Health Plan (SSHP) for the investigation of solid waste disposal sites required for enforcement and potential clean-up activities. This SSHP addresses health and safety policy and procedures for CalRecycle staff to follow when performing site characterization at Closed, Illegal and Abandoned Sites (CIA).

The purpose of this SSHP is to prevent occupationally related accidents, exposures and illness for personnel performing work activities related to this site. This SSHP provides guidance for CalRecycle employees when performing fieldwork dealing with toxic, hazardous and infectious materials/wastes and physical hazards. The policies set forth in this SSHP are to:

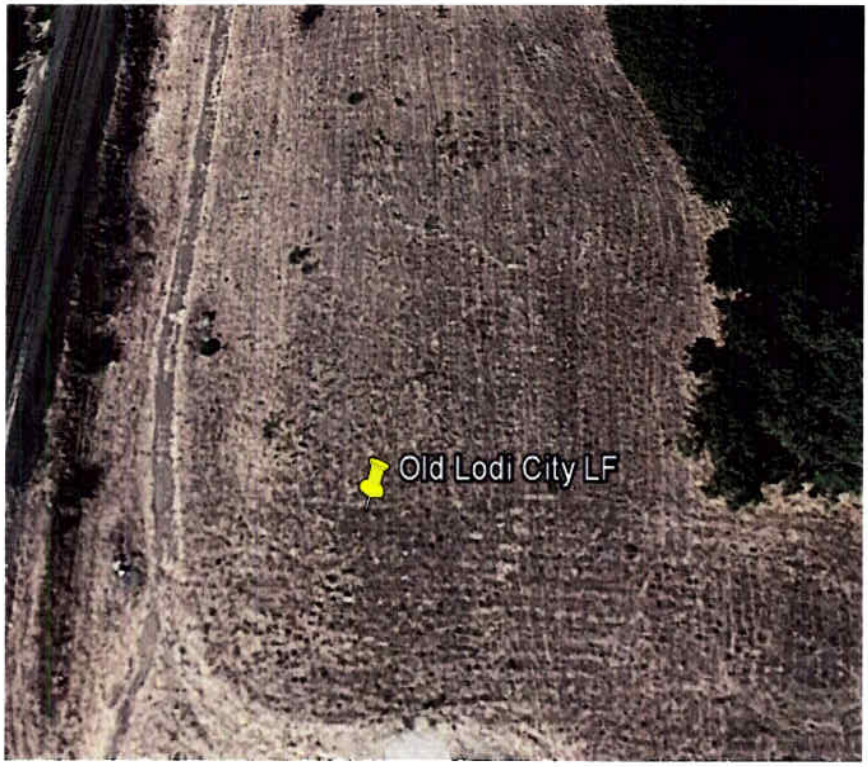
- Provide a safe and healthful work environment,
- Comply with applicable government regulation,
- Prevent accidents, injury and illness,
- Ensure communication of all hazards associated with the site, and
- Establish mandatory safety procedures and personal protection standards.

2. Facility Background

Location

The Lodi City Landfill has been identified as an approximately 3.7 acre site located north of the intersection of Awani and Mokelumne Drives and east of the railroad tracks in the City of Lodi California. The San Joaquin County Environmental Health Department solid waste local enforcement agency (EHD/LEA) is asking for assistance from CalRecycle in conducting a subsurface environmental investigation. There is some discussion that the actual footprint may extend beyond the known 3.7 acre site to the west. This job pertains to investigating areas west of the railroad tracks, not currently part of the 3.7 acre waste disposal site. The job site which currently is a private residential development -was formerly a winery and the location of previous remedial action activities.

Figure 1 - Site Location Map



Site Description and Background

The site is owned by the City of Lodi (SWIS NO. 39-CR-0023). Historical information regarding the disposal of waste at the Lodi City Landfill indicates the property was used by the City of Lodi for over 25 years primarily for the disposal of street sweepings and leaves. Discussions with people familiar with the area and old aerial photographs are the only information we have on what may be buried at the site. This information of course is -second hand. It is our understanding based on these interviews that *"non-*

putressible dry garbage dump from approximately 1935 to 1955, and that intermittent activity at the dump since 1955 had occurred." The site is also used by the homeless as a temporary "camp". A letter from August 1977 indicated that the site was no longer being used except for the temporary storage of street sweepings, broken concrete and pavement, and other miscellaneous debris. The lateral extent of the waste disposal site is described as currently undeveloped, graded land, roughly rectangular in shape that occurs south of the bend in the Mokelumne River.

The exact amount of refuse accepted at this site is uncertain. According to a 1982 engineering study of the site, it appears the northern most portion of the site was determined to be unsuitable for building due to a high concentration of organic matter. The study did not include any gas readings to determine explosive gas concentrations (if any). A September 1988 preliminary workplan from Kleinfelder stated that approximately 25,000 cubic yards of waste was disposed of at the site based on their assessment.

The San Joaquin County (EHD/LEA) is asking for assistance from the State to determine whether wastes disposed of at the site pose a threat to public health and the environment with respect to landfill gas (LFG) generation - and potential offsite migration. It should be noted that the site does not have a LFG monitoring network. Other areas of concern include hazards associated with the city-wide soil vapor survey project(s). And the possible residual wastes associated with former industrial waste ponds and former underground storage tanks (UST).

Due to regulatory changes, the site does not currently comply with California Code of Regulations, Title 22, and Title 27 Sections 20921 and 20923 gas monitoring (perimeter monitoring network). Therefore, a gas monitoring network and program is warranted to assess the potential off-site migration of landfill decomposition gasses.

3. Scope of Work

The Closed, Illegal and Abandoned Site Investigation Unit (CIA) within the Engineering Branch and San Joaquin County LEA will be conducting a site investigation to evaluate the potential presence of LFG at the waste disposal site and to assess the potential for off-site migration at the Lodi City Landfill (SWIS NO. 39-CR-0023) located in the City of Lodi, California. The installation of a new gas monitoring network is necessary in order to protect the public health and safety and the environment pursuant to California Code of Regulations, Title 27 Sections 20921 and 20923.

The objective of this investigation is to determine if this old landfill is producing methane gas which could affect nearby residences and to determine if waste is buried west of the railroad tracks. The LFG monitoring network will consist of ten gas monitoring wells total. Ten exploratory trenches will be excavated. The landfill gas well locations will be selected by CalRecycle in conjunction with their environmental consultant Ninyo and Moore (N&M). The following will be performed as part of this site investigation:

- Evaluate site conditions and gas migration potential,
- Advance borings to facilitate construction of landfill gas monitoring wells,
- Collect representative gas samples,
- Collect soil/waste samples during drilling,
- Evaluate and summarize gas generation data, and
- Recommend gas control options (if necessary).

Sampling will be conducted in general accordance with applicable portions of California Code of Regulations, Title 22, and Section 66261.10 et. seq. for characterizing hazardous waste. CalRecycle will use applicable regulatory levels established by DTSC and applicable federal levels to evaluate and characterize the buried waste.

4. Key Personnel & Responsibilities

It is the policy of the CalRecycle to provide safe and healthful working conditions for employees when performing field activities. All CalRecycle personnel on-site during the waste characterization investigation are - to adhere to standard safety policies. Each employee is responsible for reporting any injuries, incidents, and safety infractions to the Site Safety and Health Officer (SSHO) so treatment can be obtained and/or corrective action taken.

KEY PROJECT PERSONNEL

Project Manager:	Glenn Young, PE Senior Engineer CalRecycle/CIA Section (916) 341-6696
Onsite Project Lead:	Sabra Ambrose CalRecycle/CIA Section (916) 341-6352
Project Safety & Health Officer:	Diane Kihara, CIH, CSP CalRecycle/Health & Safety Section (916) 341-6392
Site Safety & Health Officer:	Marc Arico, AIH CalRecycle/Health & Safety Section (916) 341-6394
	Diane Vlach, AIH CalRecycle/Health & Safety Section (916) 341-6393
	For N&M and their subcontractors Peter Clark or Beth Abramson-Beck Ninyo and More Environmental Consultants (858) 576-1000 (858) 864-2833 on site/cell number

Project Manager/Onsite Project Lead

The Project Manager/Onsite Project Lead is ultimately responsible for site safety and health, and will provide the materials and maintenance of equipment necessary to enhance and maintain safe site and work conditions. Responsibilities of the Project Manager/Onsite Project Lead include project scheduling, cost updating, -overall project direction and overseeing site safety. In addition, the Project Manager/Onsite Project

Lead is responsible for determining the extent and level of input required for technical issues that arise during the - the project. CalRecycle Project Manager/Onsite Project Lead will serve as the primary point of contact. In the event that the Site Safety & Health Officer is not present at the site the Project Manager/Onsite Project Lead will assume all Safety and Health responsibility of the site.

Project Safety & Health Officer

The Project Safety and Health Officer will be responsible for review and approval of the Site Safety and Health Plan (SSHP), and will assist and advise the Site Safety and Health Officer (SSHO). He/she has the authority to stop unsafe operations, recommended the removal of unqualified personnel from the work area, and approves changes to the site SSHP.

The Project Safety and Health Officer will have responsibility for integrating all aspects of the Site Safety and Health Plan. His/her duties include advising the SSHO on all related Health and Safety aspects, reviewing any Site Specific Plans for compliance and completeness, and establishing and monitoring all related Health and Safety procedures through site safety audits.

The Project Safety and Health Officer will coordinate with the SSHO to ensure overall compliance with the SSHP. The SSHO will provide ongoing communication with Project Safety and Health Officer on issues related to site operations.

Site Safety and Health Officer (SSHO)

The SSHO is responsible for overseeing work areas and identifying conditions that may pose a hazard to personnel or the public. The SSHO is required to conduct regular safety inspections and implement and enforce the project safety program and procedures. The SSHO will work closely with the Project Manager/Onsite Project Lead to ensure that all site personnel review and comply with the terms of the SSHP. The SSHO performs duties such as verifying that the personnel have appropriate training, coordinating emergency medical care, conducting a daily site safety inspection (if required), and inspecting safety and health equipment. In addition, the SSHO is responsible for maintaining safety equipment, posting air monitoring results, providing site orientation safety training for all personnel actively involved in site work, and other site safety documentation.

The SSHO takes the following action(s) when appropriate:

- Orders the immediate shutdown of site activities in the case of a medical emergency or unsafe practice.
- Ensures protective clothing and equipment are properly stored, used, and maintained.
- Ensures that the environmental and personnel monitoring operations are on-going and in accordance with technical specifications and required procedures.
- Restricts visitors from areas of potential exposure to harmful substances.

The SSHO will maintain the safety log, planned employee activities, and instrument calibration for all activities at the site. This log will include any daily safety meeting topics, training given, air monitoring information, first aid administered, visits of all outside personnel and any incidents of a health and safety nature. The SSHO will investigate all accidents and prepare an accident investigation report that will be forwarded to the Project Manager/Onsite Project Lead.

Subcontractor Management and Personnel

Subcontractor management is responsible for the compliance of their personnel with this SSHP. Since subcontractors are hired for their specific expertise, they must assume primary responsibility for the health and safety of their personnel. The subcontractor's Field Supervisor will also be responsible for performing regular safety inspections of their operations. Subcontractors must supply health and safety related training and medical surveillance documentation to CalRecycle for each onsite worker prior to commencing work at the project site if requested by the Project Manager/Onsite Project Lead.

Subcontractors must also:

- Comply with all applicable Occupational Safety and Health Administration(OSHA) regulations as defined in CCR, Title 8;
- Perform all work in accordance with this SSHP; and
- Conduct weekly toolbox safety meeting and submit the minutes to the SSHO or the Project Manager/Onsite Project Lead.

5. Logs, Reports and Record keeping

The following logs, reports, and records will be developed and maintained for this site by the SSHO.

- Daily Safety Meetings (if the project requires more than one day to complete);
- Site Specific Health and Safety Plan; and
- Injury and Illness Prevention Program Records.

6. Hazard Assessment

This section addresses the potential hazards identified with gas characterization of the site, which includes but is not limited to chemical, physical, and environmental hazards. Hazard characterization and selection of worker protection methods for this site has been determined from previous waste characterization jobs as well as reading the site history.

HAZARD ASSESSMENT

To provide protection for personnel on-site, the following potential hazards have been identified at the Lodi City Landfill related to the gas characterization: chemical hazards, biological hazards, and physical safety hazards. This determination is based on information provided related to the contaminants identified at the Site and based on the work tasks performed.

CHEMICAL HAZARDS

A number of chemical hazards of concern that may be present in the soil and potential landfill gas at the site are discussed below. The information that follows provides a discussion of the hazard concerns that may be present at the site. This SSHP includes the OSHA permissible exposure limits (PELs), which are the regulatory exposure limits for workplace safety. The PELs are time-weighted average (TWA) exposure concentrations. When applicable, the short-term exposure limits (STELs), and concentrations in the air that would be immediately dangerous to life or health (IDLH), are also provided. STELs are TWA 15-minute exposure concentrations that should not be exceeded at any time during a workday, even if the 8-hour exposure limit is not exceeded.

A. Landfill Gas Constituents

Landfill gas is generated as a result of the waste breakdown at a landfill. Typically, landfill gas constituents contain, by volume:

LANDFILL GAS CONSTITUENTS[1]
38-58% methane gas
0.2-1% oxygen
2-10% nitrogen
30-48% carbon dioxide
0-1% hydrogen
<1% non-methane organic carbons (NMOC) *NMOC constituents: benzene, ethyl benzene, toluene, vinyl chloride, dichloromethane, trichloroethylene, 1,2,-cis-dichloroethylene, tetrachloroethylene*

[1] CIWMB Landfill Gas Characterization Study

Methane is the major component of gas generated during biodegradation of solid waste buried in landfills. It is an odorless and colorless gas. It does not chemically react with the body, but may cause asphyxiation by displacing the oxygen in the air. The primary concern is its flammability. Because of its classification as simple asphyxiant, methane has no established exposure limits. However, a threshold concentration or TWA of 1000 ppm is commonly assumed.

Waste decomposition is known to produce various landfill gas constituents. Staff should use precaution when working in landfill areas. Personal protective equipment combined with the requirement to wash arms, face, and hands before eating, drinking, smoking and prior to leaving the Site, will help prevent exposure through absorption and ingestion pathways.

The following summary, Table 2 – Landfill Gas, provides exposure information for landfill gas.

Table 2
LANDFILL GAS[2]

Chemical Name	Exposure Limit	IDLH	Relative Response	LEL	Route of Entry
Benzene	PEL: 1 ppm STEL: 5 ppm "skin"	500 ppm	Irritation eyes, skin, nose, respiratory; dizziness; headache; Regulated carcinogen	1.2 %	Inhalation, Absorption, Ingestion, skin/eye
Ethyl benzene	PEL: 100 ppm STEL: 125 ppm	800 ppm	Irritation eyes, skin, mucous membrane; headache	0.8%	Inhalation, Ingestion, skin/eye
Hydrogen sulfide	PEL: 10 ppm STEL: 15 ppm Ceiling: 50 ppm	100 ppm	Irritation eyes, respiratory; apnea, coma, convulsions	4.0%	Inhalation, Ingestion, skin/eye
Toluene	PEL: 50 ppm STEL: 150 ppm Ceiling: 500 ppm "skin"	500 ppm	Irritation eyes, nose; weakness, confusion, euphoria, dizziness	1.1%	Inhalation, Absorption, Ingestion, skin/eye
Vinyl Chloride	PEL: 1 ppm "skin"		Weakness, abdominal pain, gastrointestinal bleeding Regulated carcinogen	4.0%	Inhalation, skin/eye

[2] Permissible exposure limits, California Code of Regulations, Title 8, General Industry Safety Orders, Airborne Contaminants, §5155

Dichloromethane (methylene chloride)	PEL: 25 ppm STEL: 125 ppm	2300ppm	Irritation eyes, skin; weakness, drowsiness dizziness Regulated carcinogen	13%	Inhalation, Absorption, Ingestion, skin/eye
Trichloroethylene	PEL: 25 ppm STEL: 100 ppm Ceiling: 300ppm	1000ppm	Irritation eyes, skin; headache, visual disturbance	8%	Inhalation, Absorption, Ingestion, skin/eye
1,2-Dichloroethylene	PEL: 200ppm	1000ppm	Irritation eyes, skin; headache, visual disturbance	5.6%	Inhalation, Ingestion, skin/eye
Tetrachloroethylene (perchloroethylene)	PEL: 25 ppm STEL: 100 ppm Ceiling: 300 ppm	150ppm	Irritation eyes, nose, throat; flush face, neck;	NA	Inhalation, skin absorption, ingestion, skin and/or eye contact
Methane	None		At high concentrations methane acts as an asphyxiant without other adverse effects.	5.5%	Inhalation
Xylene	100 ppm STEL:150ppm Ceiling: 300 ppm	900 ppm	Irritation eyes, skin; headache, visual disturbance	1%	Inhalation, skin absorption, ingestion, skin and/eye contact

B. Other Potential Chemical Hazards

Gasoline is a mixture of petroleum-derived chemicals. Benzene, toluene, xylene and ethylbenzene are the airborne contaminants of most concern. Health hazards associated with gasoline exposure are mild irritation and effects on the central nervous system. It is an **explosion** hazard!

Diesel is a fuel oil and a refined petroleum solvent that is mixture of paraffins and aromatics. Health hazards associated with diesel exposure are mild irritation to the eyes, skin, and throat.

Polynuclear Aromatic Hydrocarbons (PNA) form a class of diverse organic compounds each containing two or more fused aromatic rings of carbon and hydrogen atoms. Most PNAs enter the environment via the atmosphere from a variety of combustion processes and pyrolysis sources.

Evidence that mixtures of PNAs are carcinogenic to humans comes primarily from occupational studies of workers following inhalation and dermal exposure. Data is unavailable for the oral route of exposure for humans [3].

[3] Permissible exposure limits, California Code of Regulations, Title 8, General Industry Safety Orders, Airborne Contaminants, §5155

Polynuclear Aromatics (PNAs)					
Chemical Name	Exposure Limit	IDLH	Relative Response	LEL	Route of Entry
Anthracene	PEL = 0.2 mg/m³		Bronchitis, Dermatitis Potential Carcinogen		Contact/inhalation
Benzopyrene	PEL = 0.2 mg/m³	IDLH = 80 mg/m³	Bronchitis, Dermatitis Potential Carcinogen		Contact/inhalation
Chrysene	PEL = 0.2 mg/m³	IDLH = 80 mg/m³	Bronchitis, Dermatitis Potential Carcinogen		Contact/inhalation
Naphthalene	PEL = 10 ppm STEL = 15 ppm	IDLH=250 ppm	Irritant eyes, confusion, Malaise, nausea, vomiting	0.90%	Contact/inhalation Absorption, inhalation
Phenanthrene	PEL = 0.2 mg/m³	IDLH = 80 mg/m³	Bronchitis, Dermatitis Potential Carcinogen		Contact/inhalation
Pyrene	PEL = 0.2 mg/m³	IDLH = 80 mg/m³	Bronchitis, Dermatitis Potential Carcinogen		Contact/inhalation

Polychlorinated Biphenyl (PCB) is mixtures of synthetic organic chemicals that have the same basic chemical structure and similar physical properties ranging from oily liquids to waxy solids. The Occupational Safety and Health Administration (OSHA) permissible exposure limit (PEL) is a time-weighted average (TWA) airborne concentration of 1,000 micrograms per cubic meter (µg/m3) for PCBs containing 42% chlorine (average molecular formula of $C_{12}H_7C_{l3}$). The PEL for PCBs with 54% chlorine and an average molecular formula of $C_{12}H_5C_{l5}$ is 500 µg/m3. Both standards encompass all physical forms of these compounds: aerosols, vapor, mist, sprays, and PCB laden dust particles. OSHA recognizes that PCBs are absorbed through intact skin; therefore, both dermal and inhalation exposure routes should be evaluated by an industrial hygienist.

The National Institute for Occupational Safety and Health (NIOSH) recommends a 10 hour TWA of 1 µg/m3 based on the minimum reliable detectable concentration and the potential carcinogenicity of PCBs. NIOSH also recommends that all workplace exposures be reduced to the lowest feasible level. Due to their non-flammability, chemical stability, high boiling point and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications including electrical, heat transfer, and hydraulic equipment; as plasticizers in paints, plastics and rubber

products; in pigments, dyes and carbonless copy paper and many other applications. More than 1.5 billion pounds of PCBs were manufactured in the United States prior to cessation of production in 1977. Concern over the toxicity and persistence in the environment of Polychlorinated Biphenyls (PCBs) led Congress in 1976 to enact §6(e) of the Toxic Substances Control Act (TSCA) that included among other things, prohibitions on the manufacture, processing, and distribution in commerce of PCBs.

This substance can be absorbed into the body by inhalation of its aerosol, absorption through the skin and by ingestion. Repeated or prolonged contact with skin may cause dermatitis and the substance may have effects on the liver.

Asbestos is a naturally occurring group of fibrous minerals that can only be identified under a microscope. There are several types of these flexible, fire-resistant fibers. In the past, asbestos was added to a variety of products to strengthen them and provide heat insulation and fire resistance. In most products, asbestos is combined with a binding material so that it is not readily released into the air.

If asbestos fibers should become airborne and are inhaled, they can remain in the lungs for a long period of time, producing the risk for severe health problems that do not appear until many years later. Asbestos fibers can have serious effects on health if inhaled. There is no known safe exposure level to asbestos. Increased exposure to asbestos will increase the risk of developing an asbestos-related disease. The amount of time between exposure to asbestos and the first signs of disease can be as much as 30 years. It is known that smokers exposed to asbestos have a much greater chance of developing lung cancer than just from smoking alone.

Asbestos can cause asbestosis, a scarring of the lungs that leads to breathing problems and heart failure. Workers who manufacture or use asbestos products and have high exposures to asbestos are often affected with asbestosis. Inhalation of asbestos can also cause lung cancer and mesothelioma, a rare cancer of the lining of the chest and abdomen lining. It may be linked to cancer of the stomach, intestines, and rectum, as well.

The regulatory occupational exposure limit or permissible exposure limit (PEL) of airborne concentration to asbestos is 0.1 fiber/cc (cubic centimeter) of air. There are two types: Serpentine and Amphibole. Serpentine includes Chrysotile (white) while Amphibole includes Amosite (brown), Crocidolite (blue), Anthophylite, Tremotile, and Actinolite. Work practices that minimize the disturbance of asbestos containing materials should be used - to control dust emissions. During underground explorations, if asbestos containing materials are encountered, and must be disturbed, an initial exposure assessment consistent with the requirements of Title 8, CCR, Section 5208 shall be performed. If asbestos containing materials are encountered and are taken out of the trench, SSHO shall be informed immediately and an engineering control measure such as wet method shall be implemented to ensure no asbestos fibers will be released during such an operation. If the engineering control is not feasible, SSHO must consider respiratory protection for the workers. The SSHO shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per

cubic centimeter (0.1 f/cc) of air as an eight (8) hour time weighted average (TWA). The SSHO shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes.

More than 3,000 products in use today contain asbestos. Most of these are materials used in heat and acoustic insulation, fireproofing, and roofing and flooring. Some of the more common products that may contain asbestos include:

Pipe and duct insulation, building insulation, wall and ceiling panels, carpet underlays, roofing materials, artificial fireplaces and materials, patching and spackling compounds, brake pads and linings, pot holders and ironing board pads, hair dryers, floor tiles, electrical wires, textured paints, cements, toasters and other household appliances, furnaces and furnace door gaskets

PHYSICAL HAZARDS

A. Physical Safety Hazards

There are numerous physical hazards associated with this project which, if not identified and addressed, could present operational problems as well as accidents and personal injury to the work force. In order to minimize physical hazards, standard safety protocols have been developed and will be followed at all times. The SSHO will observe the general work practices of all personnel and enforce safe procedures to minimize physical hazards.

1. Tripping, Slipping, and Falling Hazards

CalRecycle personnel will be reminded daily to maintain sure footing on all surfaces. In order to minimize tripping hazards caused by debris, job supplies, and equipment, material will be removed daily from the work areas and stockpiled in their respective storage areas. This "housekeeping" effort will be enforced by the SSHO throughout the day.

2. Head and Back Injuries

As a minimum requirement, hard hats will be - worn while performing any site activities. This will prevent minor injuries that may be caused by overhead obstructions. Personnel are to use proper lifting techniques whenever they lift heavy objects and seek assistance if the object is too heavy to lift safety.

3. Heavy Equipment and Traffic

The use of heavy equipment for drilling, debris removal, excavation, or lifting presents a potential safety hazard for personnel. ALL SITE PERSONNEL WILL WEAR VISABLE PROTECTIVE CLOTHING. Only qualified personnel will operate heavy equipment. All other on-site personnel shall remain a safe distance from heavy equipment.

Personnel needing to approach heavy equipment while operating will observe the following protocols:

a. Make eye contact with the operator (and spotter),
b. Signal the operator to cease heavy equipment activity,
c. Approach the equipment and inform the operator of intentions.

All equipment must be in good working condition when in use at the Site. Equipment that does not appear to be in good repair or appears to be unsafe will not be put into service until all necessary repairs are made.

4. Rail-Road Traffic

Due to the proximity of the railroad tracks to the proposed site investigation, staff shall work around the Union Pacific train schedule. Upon obtaining the permit for the "right of entry" from Union Pacific, clean-up staff shall discuss at the tailgate meeting when the work will commence and cease.

B. Trenching and Gas Probe Installation

Hazards associated with trenching and probe installations are cave-ins; striking of underground utilities; falling tools, materials, and equipment; and hazardous air contaminants.

Prior to any probe installation onsite all underground utility lines shall be clearly identified. It is the responsibility of the project manager to ensure all underground lines have been identified through a Regional Notification Center, such as Underground Service Alert (USA) - (800) 227-2600. Notify all underground utility owners who are not members on the Regional Notification Center. Underground utilities lines shall be color coded following California's marking guidelines for trenching delineation.

Color	Demarcation
White	excavation boundary
Blue	water line
Orange	communication line
Purple	reclaimed water line
Red	electric line
Yellow	gas line
Green	sewer line

C. Noise Hazards

Employees may not be exposed to noise greater than the levels established by Cal/OSHA (90 dBA TWA for an 8 hour day). If levels are higher than this, engineering, administrative, or work practice controls are required. When the noise levels cannot be controlled through these methods hearing protection will be provided. The SSHO will

monitor employee noise exposure and take appropriate action. Hearing protection will be provided. A hearing protection program will be triggered if employees are exposed above 85 dBA for 8 hours. As a general rule, keep everything below 85 dBA. Equipment used in gas probing operations and gas well construction can generate noise well above 85 dBA. Noise exposure will be reduced significantly the farther a person is away from the source.

D. Heat Stress

With the possible combination of ambient factors such as high air temperature, low air movement, high radiant heat, and protective clothing, the potential for heat stress is a concern. All on-site personnel will be made familiar with the symptoms of heat stress and the conditions during which they may occur. Heat stress symptoms may include elevated heart rate, nausea, headache, lightheadedness, and lack of coordination or decreased job performance or slurred speech.

Heat Stress Condition	Causes & Symptom
Heat rash	Also known as prickly heat, skin remains wet as sweat does not evaporate.
Heat cramps	Painful muscle spasms that are caused by lack of salt in the body. Usually a result from sweating heavily and drinking large amount of water without replacing the body's salt loss
Heat exhaustion	Continues loss of fluids and salt from sweating can cause heat exhaustion. Symptoms include heavy sweating, cool and moist skin, and a weak pulse. Possible fainting, weakness, dizziness, nausea, diarrhea, blurred vision and a normal or slightly high body temperature. Advanced stages can cause vomiting or loss of consciousness.
Heat stroke	Most serious heat illness – when sweating no longer helps the body regulate its internal temperature. Skin is hot, may or may not be dry. Often red or spotted. Individual is slightly confused & disoriented, delirium, convulsions, or even unconsciousness may occur. Body temperature may be 105 degrees F or higher.

The American Conference of Governmental Industrial Hygienists (ACGIH) provides recommendations for heat stress situations, which this SSHP will follow.

At 75 degrees Fahrenheit ambient temperature, the SSHO will become keenly aware of the effects of heat stress on project personnel, and will alert the crew to become aware of any symptoms. The SSHO shall be responsible for performing all heat related monitoring for his employees in accordance with this document. The symptoms of heat-related disorders and preventive measures will be discussed during a safety "tailgate" meeting. Workers are encouraged to increase consumption of water and electrolyte-

containing beverages such as Gatorade during warm weather.

If a heat stress condition develops the SSHO shall monitor for heat stress. Site personnel shall follow the appropriate work practices and monitor their potential heat stress condition. Workers should be paired using the buddy system so that no employee succumbs to heat stress alone and unattended. At a minimum, workers will break every 2 hours for 10 to 15 minute rest periods. In addition, workers are encouraged to take rests whenever they feel any adverse effects, especially those effects that may be heat-related. The frequency of breaks may need to be increased upon worker recommendation to the SSHO. Also, if resting pulse rates exceed 110 beats after a 3-minute waiting period, then additional breaks will be taken. Workers are encouraged to drink small volumes of cool water about every 20 minutes for rehydration. Other possible monitoring methods include core temperature and ambient conditions.

BIOLOGICAL HAZARDS

The following table summarizes the potential biological hazards:

Hazard	Avoidance
Animal and insect bites or stings: ➢ **Bees** ➢ **Wasps** ➢ **Ticks** ➢ **Snakes** ➢ **Spiders**	Animal and insect bites and stings can cause localized swelling, itching, and minor pain that can be handled by first aid treatment. In sensitive individuals, however, effects can be more serious such as anaphylactic shock that can lead to severe reactions in the circulatory, respiratory, and central nervous system, and in some cases, even death. Do not attempt to capture any wild or semi-wild animals such as cats, rats or snakes due to the possibility of a bite or parasitic infestation.

RADIOGICAL HAZARDS

Typically landfills of this era contain unclassified wastes that may include radioactive materials. The following table provides radiation types and their properties. The action level for removal is set at three times (3x) background radiation, while the maximum allowable level is set at 2 milliroentgen per hour (2 mR/hr) at one foot. Radiation monitoring is discussed in Section 12.

Radiation Type	Properties
Alpha Particle	2 protons/2 neutrons Travels 2-4 inches in air Not a serious external hazard Serious internal hazards Shielding: Stopped by a sheet of paper
Beta Particle	Electrons released from the nucleus Travels up to 50 feet in air External and internal hazard Shielding: Stopped by a thick sheet of aluminum Distance: Inverse square law applies
Gamma Rays	Waves of electromagnetic energy or photons released from the nucleus Travels up to 1 mile in air External and internal hazard Shielding: Varies with shielding materials (Up to 3 feet of concrete or 1 foot of lead) Distance: Inverse square law applies

7. Safety Inspections

The SSHO and/or his or her designee will perform daily safety inspections. A report including results of the inspection and any corrective actions taken will be filed in the project files, with a copy to the CalRecycle Project Manager/Onsite Project Lead. Identified safety and occupational health deficiencies and corrective measures shall be recorded.

8. Standard Field Activity Procedures

To ensure the safety of personnel in the work area, practice the following field activity procedures:

- Stay upwind and a safe distance away from the source of any chemical hazard (i.e. during trenching activities) whenever possible.

- Staff should remain alert of possible moving ground near the excavation and select solid ground for observation or sampling. Do not stand on the spoil pile.

- Do not touch or attempt to collect samples of soil, waste material or debris of any kind without appropriate personal protective equipment.

- Avoid all heavy equipment or machinery operations that can pose a safety hazard. If heavy equipment or other vehicles are present, stay out of traffic routes. If staff needs to remain in traffic areas, advise equipment operators of your presence. Make sure they see you and stop the equipment before you approach them.

- When encountering asbestos containing waste (ACW)appropriate control measures must be used to prevent airborne dust; such as wetting down the area.

- Never put notebooks or other equipment down in waste areas.

- Portable fire extinguisher shall be available at the job site.

- Avoid dust clouds and dusty operations. Stand upwind and out of the dust plume area. Leave dusty areas immediately and reenter only after dust has settled or after dust control is in effect. Avoid being splashed by the water truck or entering freshly sprayed areas.

- When dusty operations are anticipated, control measures shall be used; such as a water truck.

- Avoid loud or sustained high noise levels. If you cannot hear the person next to you or the sound is loud enough to be uncomfortable, leave the area immediately and do not reenter without adequate hearing protection.

- Do not enter enclosed areas unsupervised, including buildings, sumps, drains or any low areas where gas may collect without closely monitoring, continuously, air quality at all times and without following confined space entry procedures. Avoid low or partially enclosed or covered areas where gas/vapor may linger, both known or suspected, that may be detected by either instrumentation or by observation. This includes ground water wells, storm drains or other sub-grade conduits. Do not enter such spaces unsupervised and without following confined space entry procedures.

- Avoid walking in the waste and near operating equipment.

- Always be alert and watch for sharp objects such as medical syringes, nails and broken glass, which may penetrate your boots or your hands, should you fall.

- Examine your boots and clothing after walking through waste to determine if you have been contaminated. Keep in mind that not all contamination is visible! Make sure all PPE is disposed of properly. If it is hazardous, everything should go in hot trash (including PPE). If it is not hazardous, throw it into the municipal waste.

- Stay clear of steep slopes. Slopes greater than 10% should be avoided altogether.

- Driving with your boots on can be hazardous and may cause you to lose of control of the vehicle.

- Avoid contaminating the interior of vehicles. Whenever possible, do not enter the vehicle with contaminated boots or clothing.

- Remember to use all personal protective equipment according to manufacturer's instructions.

- Observe site conditions and wind direction. Note traffic patterns, work areas, unusual activities.

- Keep vehicles away and upwind of all hazards including: traffic, dust, active areas, landfill gas collection, venting or flame-off areas, etc.

- Entry into any excavation, trench, or confined space is prohibited. Watch for openings on the ground and avoid stepping into the spoils from excavations or trenches.

Personal Hygiene

- Avoid hand or body contact with waste materials or any dirty or contaminated surfaces.

- Application of makeup is prohibited at the work area.

- Avoid touching eyes, nose or mouth with or without gloved hands. Hands and face should be washed with a disinfectant soap, immediately after leaving the work site. Always wash up thoroughly before leaving the site or as soon as possible thereafter.

- Be sure to containerize all contaminated materials in a plastic bag until you can properly dispose of them.

- Disposable gloves may not be reused.

- Always carry boots in plastic bags separately from other personal clothing.

- Water from sealed containers or coolers may be consumed if done carefully and away from contaminant sources. If possible, remove all personal protection equipment before entering any office to get drinking water.

- Eating and smoking are prohibited while on a solid waste facility, except in designated areas.

- Wash hands before eating and before and after using the restroom. Partial or complete personal decontamination may be required to prevent transfer of contaminants to yourself or facilities.

- Always double check your gear and equipment to insure that no uncontrolled contaminants leave the site with you.

- Whenever possible dispose of all collected waste materials you may have generated contaminated or not. Salvaging of ancient wastes is prohibited. This will reduce the likelihood of spreading contamination into shared vehicles or to your office or home.

9. Work and Support Areas

To prevent migration of contamination caused by tracking of personnel or equipment, work areas and personal protective equipment will be clearly specified prior to beginning operations. CalRecycle has designated work areas or zones as suggested by the NIOSH/OSHA/USCG/EPA's document titled, "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities."

Upon entrance into the site, Team members will control access to site work zones. Each work area will be designated into one of three zones: exclusion or "hot" zone, a contamination reduction zone (CRZ), and a support zone.

EXCLUSION ZONE

The exclusion zone is considered the zone of contamination and is the area where inhalation, oral contact, or dermal contact with contaminants must be avoided.

CONTAMINATION-REDUCTION ZONE

The contamination-reduction zone CRZ or transition zone will be established between the exclusion zone and support zone. In this area, personnel will perform decontamination of -themselves and equipment to remove any contamination.

SUPPORT ZONE

The support zone will consist of a clearly marked area where the support equipment and personnel not donned in the appropriate level of personal protective equipment will be located. Smoking, drinking, and eating will be allowed only in designated areas in the support zone. Location of support zone may be changed in the event of a sustained change in the prevailing wind direction or other unpredictable events.

ACCESS CONTROLS

The SSHO shall establish the physical boundaries of each zone daily and shall instruct all workers and visitors on the limits of the restricted areas. No one shall be allowed to enter the restricted area without the required personal protective equipment for that area. The SSHO shall ensure compliance with all restricted area entry and exit procedures.

The SSHO shall also designate a decontamination point for personnel to exit from the contaminated area and enter into the clean area where personnel may rest and drink.

VISITOR ACCESS

Visitors should check in immediately upon arrival with the SSHO. Only authorized visitors will be allowed access to the contaminated areas. Each Team member will be required to provide and wear the appropriate level of personal protective equipment. Other site visitors will not be admitted to the exclusion and contamination reduction zones.

Failure to comply with this site entry procedure will result in expulsion from the site. A visitor's log will be kept by the SSHO.

10. Personal Protective Equipment

All personnel entering the exclusion or contamination reduction zone must wear the appropriate level of protection as designated by this SSHP. It has been determined that personal protective equipment will be used by personnel when performing activities related to waste characterization sampling of this site. When personnel can control their exposure through engineering or administrative controls they shall do so.

The level of protection required shall be upgraded or downgraded based on the results of personal air monitoring, action levels from direct reading instruments or a change in site conditions. Changes in protection levels must be determined by the SSHO and approved by the Project Manager/Onsite Project Lead and Project Health and Safety Officer.

LEVELS OF PROTECTION

Personnel working in the hot zone will use the following levels of protection:

- Level C: Used when criteria for using air-purifying respirators are met and a lesser level of skin protection is required.
- Level D: Used for all personnel in the exclusion zone.

As identified in the CalRecycle's Respiratory Protection Program, Section 4.0 Selection of Respirators, the following are criteria that should be met before choosing a respirator:

General Considerations

The selection of a respirator for any given situation shall require consideration of the following factors:

- The nature of the hazard;
- The characteristics of the hazardous operation or process;
- The location of the hazardous area with respect to a safe area having respirable air;
- The period of time for which respiratory protection may be provided;
- The activity of the workers in the hazardous area;
- The physical characteristics, functional capabilities and limitations of various types of respirators; and/or,
- The respirator protection factors and respirator fit.

LEVELS OF PROTECTION WORN IN THE EXCLUSION ZONE

Level C is required only when collecting the samples.

Respiratory Protection: Full face piece air purifying respirator /combination cartridge for

protection against chemical/organic vapors, pesticides/fertilizers with HEPA filter
Protective Clothing: Visible protective clothing
Head: Hardhat if overhead hazard exists
Hand: Outer (Nitrile) and inner gloves are available
Boots: Steel toe boot
Hearing: Earplugs if necessary

Level D is required for all personnel in the exclusion zone.

Protective Clothing: Visible protective clothing
Head: Not required
Hand: Not required
Foot: Steel toe boot
Hearing: Earplugs if necessary
Eye: Safety glasses

SUPPORT ZONE

Personnel working in the support zone will use the following personal protective equipment:

Foot: Steel Toe Work Shoes
Head: Not required

RESPIRATORY PROTECTIVE EQUIPMENT

All CalRecycle personnel using respiratory protective equipment shall follow CalRecycle policy and procedures. The following issues covered below should be followed when using respiratory protection for this site.

Cartridge Changes

All cartridges will be changed a minimum of once daily. However, water saturation of the HEPA filter or dusty conditions may necessitate more frequent changes. Changes will occur when personnel begin to experience increased inhalation resistance, or breakthrough of a chemical with warning properties.

Inspection and Cleaning

Respirators will be checked periodically by the SSHO and inspected before each use by the wearer. All respirators and associated equipment will be decontaminated and hygienically cleaned after use.

Facial Hair

No personnel who have facial hair, which interferes with the respirator's sealing surface, will be permitted to wear a respirator to collect samples.

Corrective Lenses

Normal eyeglasses cannot be worn under full-face respirators because the temple bars interfere with the respirator's sealing surfaces. For workers requiring corrective lenses, special spectacles designed for use with respirators will be used.

Medical Certification

Only workers who have been certified by a physician, as being physically capable of respirator usage will be issued a respirator.

Note: The Health and Safety Officer encourages all field staff to use disposable dust masks voluntarily for level D activities.

11. Decontamination Procedures

All personnel and equipment must be free from contamination when they leave the work site.

PERSONNEL DECONTAMINATION

Decontamination of personnel shall be accomplished to ensure that any material, which personnel may have contacted in the exclusion zone, is removed in the contamination-reduction zone. Decontamination of personnel shall utilize the following steps as appropriate to the specific work area:

Step 1: Wash down boots with sprayer;

Step 2: Remove OUTER gloves;

Step 3: Remove the hard hat, decontaminate as needed;

Step 4: Remove respirators and suitably store while on breaks and during lunch. At the end of shift, discard the cartridges (note: respirator should be disinfected after use by wiping down and allowing to air dry.);

Step 5: Remove INNER gloves; and

Step 6: Wash hands, face and neck before breaks, lunch, and site departure.

EQUIPMENT DECONTAMINATION

Any equipment and vehicles that come in contact with contaminated soil will undergo decontamination. Each party will be responsible for final decontamination of their equipment.

WASTE HANDLING

Contaminated clothing will be bagged and disposed of at the end of the waste characterization project. Wastewater generated on site will be disposed of onsite. Solid wastes will be disposed of in temporary waste storage areas set up within the exclusion zone. Wastes will be removed from the site at the end of the day, and disposed of in municipal waste dumpsters.

12. Air Monitoring

AIR MONITORING

Air monitoring shall be performed to evaluate air emissions at the site. The SSHO shall determine if an industrial hygiene evaluation or additional sampling is needed to assess health and safety at the site. The SSHO will assist the Project Manager/Onsite Project Lead on determining when monitoring shall be performed to ensure site health and safety.

Air monitoring to determine the presence of combustible gas (monitoring shall be on-going) or oxygen deficiency shall be performed with an appropriate air monitoring instrumentation, such as a RKI Eagle. If a reading of 10% of the lower explosive limit (LEL) is met, then all work shall cease and then all personnel in the exclusion zone be moved to the upwind side of the CRZ where LEL is less than 10%. The SSHO would then commence assessment to determine the potential risk of explosion.

At the Lodi City Landfill site, Health and Safety staff will require clean-up staff to use a passive gas monitor for hydrogen sulfide and combustible gas while trenching at sites formerly used for wine waste disposal (At locationsT8 through T10, LFG 7, 8 &10). If an alarm is triggered, all work must cease and the SSHO would commence assessment to determine potential risk.

The "mini RAE"/photo ionization detector (PID) indicates if volatile organic compounds are present. The PID should not be used to detect semi-volatile compounds including but not limited to PCB's and PAH's. Keep in mind that rain may affect performance and high humidity can cause lamp fogging and decreased sensitivity. High concentrations of methane can hinder performance. Because it is likely we are dealing with unknowns, if the reading is 5 ppm above background level in the breathing zone, all work should be stopped and evaluation situation should commence.

All instruments used for air monitoring shall be calibrated prior to use and the calibration log and sampling results shall be properly maintained.

RADIATION MONITORING

The decision to monitor for radioactive materials shall be at the discretion of the CalRecycle project engineer and/or his or her designee. It is recommended that all solid waste sites be surveyed for radioactive material especially at illegal dumps. At a minimum, it is recommended that sampling team implement the following:

1. Don personal radiation monitoring devices (radiation dosimeter);
2. Perform a general survey of the waste area(s) using an instrument capable of detecting alpha, beta, and gamma radiation;.
3. Spot survey the sampling locations;

4. Survey each sample in the field for radioactivity using a Geiger Mueller detector; and
5. Survey all equipment and personnel for radioactive contamination prior to leaving the work zone.

Radiation Surveying

Radiation surveying will be conducted using approved and calibrated survey equipment capable of measuring gamma radiation emissions of at least 1 mR. Approved radiation survey equipment includes the Digital Ratemeter manufactured by Ludlum Instruments and the MHV Surveyor 2000 manufactured by Bicron/Saint Gobain. Other equipment may be approved after a consultation with the CalRecycle project engineer. These instruments must be calibrated at least once each year by the manufacturer or at a designated service center to ensure field accuracy.

At the beginning of each survey, background radiation will be measured using each instrument that will be used to conduct subsequent surveys. Background radiation will be measured on relatively flat, open areas exposed to native soils or bedrock. The background radiation reading will be recorded for each instrument, and used during waste/burn ash surveys for comparison.

The sampling team will be responsible for conducting radiation surveys. Each survey will be performed by slowly walking back and forth over the proposed or exposed work area with an approved radiation survey instrument. If elevated radiation is detected prior to or during the course of the work, the "hot" area will be flagged in the field and excluded from the work zone.

13. Emergency Response

Prior to field activities, all personnel shall review emergency egress routes for the site. All personnel shall follow direction of the Project Manager/Onsite Project Lead and/or SSHO when an emergency situation arises.

EMERGENCY ASSISTANCE INFORMATION

Emergency Contact	Telephone Number
Fire/Police/Ambulance	9-1-1
Lodi Memorial Hospital 975 S. Fairmont Avenue Lodi, CA 95240	(209) 334-3411
Cal OSHA (field office) **Sacramento** 2424 Arden Way, Ste. 165, Sacramento 95825	(916) 263-2800 fax (916) 263-2798

EMERGENCY SERVICES

All personnel shall be provided concise and clear directions and accessible transportation to local emergency services. Emergency equipment will be kept in contamination reduction zone when field activities are performed. A map showing directions to the nearest hospital will be posted on site. Fire extinguishers and an industrial first aid kit shall be present on the site at all times.

MEDICAL EMERGENCY PROCEDURES

The following procedures should be observed if an accident occurs:

Minor Injury

- Notify the SSHO;
- Have qualified first aid personnel treat injury; and
- Record injury and include name of injured person, nature of injury and treatment given.

Serious or Major Injury

In the event of a medical emergency when actual or suspected serious injury occurs, the following procedures shall be implemented:

- Survey the scene and evaluate whether the area is safe for entry.
- Remove the exposed or injured person(s) from immediate danger.
- Render first aid if necessary. Decontaminate affected personnel after critical first aid is given.
- Obtain paramedic services or ambulance transport to local hospital. This procedure shall be followed even if there is no visible injury.
    1. Call 9-1-1.
    2. Identify location, request medical assistance, provide name and telephone number.
    3. Request assistance from emergency medical service and/or additional assistance.

- Other personnel in the work area shall be evacuated to a safe distance until the SSHO determines that it is safe for work to resume. If there is any doubt regarding the condition of the work area, work shall not commence until all hazard control issues are resolved.
- Fill out accident reporting forms and associated documents.

If a fatal injury occurs, the following additional steps will be followed:

- Notify immediate supervisor;
- Notify Project Health and Safety Manager;
- CalRecycle will initiate contact with Cal/OSHA and other appropriate agencies;
- All work activities on the project must be stopped on the project for 24 hours; and
- Assist Cal/OSHA as directed.

FIRST AID

Qualified personnel only shall give first aid and stabilize an individual needing assistance. Life support techniques such as CPR and treatment of life threatening problems such as airway obstruction, and shock will be given top priority. Professional medical assistance shall be obtained at the earliest possible opportunity.

To provide first-line assistance to field personnel in the case of sickness or injury, the following items will be immediately available:

- First aid kit;
- Supply of clean water;
- Blanket; and

The location of the above items will be established prior to beginning work and will be discussed in detail at the site safety orientation meeting.

SPILL RESPONSE PROCEDURES

CalRecycle does not expect a risk of leaks or spills of contaminated liquids or hazardous liquids.

In the case of a spill of such contaminated or hazardous materials, the following procedures shall be followed:

- Determine a spill has occurred;
- Notify the SSHO;
- Identify protective clothing or equipment required to respond;
- Contain the spill;
- Document incident; and
- CalRecycle staff should initiate clean-up!

EARTHQUAKE RESPONSE

If an earthquake should occur during the course of site activities, the following steps should be taken:

- Stop working;
- Remain calm and do not panic;
- If indoors, stay indoors away from windows and take cover under heavy furniture or door-jam if possible;
- Do not use or do anything that might be a source of ignition, i.e., smoking, cutting, or welding; and
- If outdoors, stay away from power lines, power poles, and windows.

SITE EVACUATION PLAN

In the general case of a large fire, explosion, or toxic vapor release, the site must be evacuated. Personnel must evaluate the situation and assess the upwind direction. Personnel must evacuate to an upwind location following these steps:

- All personnel will assemble in an upwind area when the situation permits; a head count will be taken.
- Determine the extent of the problem. Dispatch a response team in appropriate protective clothing to evacuate any missing personnel or to correct the problem.
- The above procedures will apply to all Team members and will be discussed with them prior to the commencement of work.

EMERGENCY WARNING SIGNAL

In the event of an on-site emergency, the Health and Safety Program has purchased a

warning horn which will be the indicator to abort and/or evacuate the job site and to assemble at a pre-determined location. This location will be pre-determined at the tailgate meeting before work commences on site.

14. Emergency & Hospital Information

The nearest hospital to the job site is:

Lodi Memorial Hospital
975 S. Fairmont Avenue
Lodi, CA 95240
(209) 334-3411

Driving directions to Lodi Memorial Hospital

Awani Dr
Lodi, CA 95240

1. Head **south** on **Awani Dr** toward **Otta Dr**

2. Turn right onto **Miwok Dr**

3. Continue onto **N Stockton St**

4. Turn right onto **E Lodi Ave**

5. Turn left at the 1st cross street onto **S Hutchins St**

6. Turn right onto **Windsor Dr**

7. Turn left onto **S Fairmont Ave**

Lodi Memorial Hospital
Lodi, California

15. Training and Medical Surveillance Requirements

TRAINING

All CalRecycle staff at this job site shall comply with the CalRecycle's Health and Safety Field Policy training requirements.

All personnel are required to have current training in the following areas:

- 40 hour hazardous waste operations and emergency response (or equivalent)
- 8-hour health and safety refresher training, if applicable
- First Aid/Cardiopulmonary resuscitation (CPR)

MEDICAL SURVEILLANCE

All CalRecycle staff at this job site shall comply with the CalRecycle's Health and Safety Field Policy – medical surveillance requirements. CalRecycle staff may view the Health and Safety policy at: http://www.CalRecycle.ca.gov/Safety/Manual/.

16. Site Specific Pre-Job Safety Orientation

All personnel entering the exclusion zone will be trained in the provisions of this SSHP and shall meet the requirements for CalRecycle's Health and Safety Policies, be required to sign the sign-in sheet and attend a site safety orientation meeting where the following topics will be covered:

- Key personnel and their responsibilities for site;
- CPR and first aid trained personnel;
- Site hazards;
- Personal protective equipment/required levels of protection;
- Location of safety equipment; such as fire extinguishers;
- Site standard operating procedures and safe work practices;
- Work zones and site control measures; and
- Emergency and spill response and contingency plans.

Approvals

PREPARED BY:

Diane Vlach, Associate Industrial Hygienist

PEER REVIEWED BY:

Vera Liou, CIH, CSP, Associate Industrial Hygienist

The undersigned personnel certify that this health and safety plan will be utilized for the protection of the health and safety of workers during the field investigation of the Site.

Diane Kihara, CIH, CSP	1/27/2012 Date
Sabra Ambrose	1-27-2012 Date
Glenn Young, PE	1-30-2012 Date
Scott Walker, PE	1-31-2012 Date

The undersigned personnel have been briefed about the contents of this health and safety plan, and intend to comply with its provisions:

Signature	Name	Date